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A casualty of the bombing of Nagasaki, Japan, in 1945. (photo: PRWeb)

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The Science of Genocide

By Chris Hedges, Truthdig

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On this day in 1945 the United States demonstrated that it was as morally bankrupt as the Nazi machine it had recently vanquished and the Soviet regime with which it was allied. Over Hiroshima, and three days later over Nagasaki, it exploded an atomic device that was the most efficient weapon of genocide in human history. The blast killed tens of thousands of men, women and children. It was an act of mass annihilation that was strategically and militarily indefensible. The Japanese had been on the verge of surrender. Hiroshima and Nagasaki had no military significance. It was a war crime for which no one was ever tried. The explosions, which marked the culmination of three centuries of physics, signaled the ascendancy of the technician and scientist as our most potent agents of death.

"In World War II Auschwitz and Hiroshima showed that progress through technology has escalated man's destructive impulses into more precise and incredibly more devastating form," [Bruno Bettelheim](#) said. "The concentration camps with their gas chambers, the first atomic bomb ... confronted us with the stark reality of overwhelming death, not so much one's own-this each of us has to face sooner or later, and however uneasily, most of us manage not to be overpowered by our fear of it-but the unnecessary and untimely death of millions. ... Progress not only failed to preserve life but it deprived millions of their lives more effectively than had ever been possible before. Whether we choose to recognize it or not, after the second World War Auschwitz and Hiroshima became monuments to the incredible devastation man and technology together bring about."

The atomic blasts, ignited in large part to send a message to the Soviet Union, were a reminder that science is morally neutral. Science and technology serve the ambitions of humankind. And few in the sciences look beyond the narrow tasks handed to them by corporations or government. They employ

their dark arts, often blind to the consequences, to cement into place systems of security and surveillance, as well as systems of environmental destruction, that will result in collective enslavement and mass extermination. As we veer toward environmental collapse we will have to pit ourselves against many of these experts, scientists and technicians whose loyalty is to institutions that profit from exploitation and death.

Scientists and technicians in the United States over the last five decades built 70,000 nuclear weapons at a cost of \$5.5 trillion. (The Soviet Union had a nuclear arsenal of similar capability.) By 1963, according to the Columbia University professor Seymour Melman, the United States could overkill the 140 principal cities in the Soviet Union more than 78 times. Yet we went on manufacturing nuclear warheads. And those who publicly questioned the rationality of the massive nuclear buildup, such as J. Robert Oppenheimer, who at the government lab at Los Alamos, N.M., had overseen the building of the two bombs used on Japan, often were zealously persecuted on suspicion of being communists or communist sympathizers. It was a war plan that called for a calculated act of enormous, criminal genocide. We built more and more bombs with the sole purpose of killing hundreds of millions of people. And those who built them, with few exceptions, never gave a thought to their suicidal creations.

"What are we to make of a civilization which has always regarded ethics as an essential part of human life [but] which has not been able to talk about the prospect of killing almost everyone except in prudential and game-theoretical terms?" Oppenheimer asked after World War II.

Max Born, the great German-British physicist and mathematician who was instrumental in the development of quantum mechanics, in his memoirs made it clear he disapproved of Oppenheimer and the other physicists who built the atomic bombs. "It is satisfying to have had such clever and efficient pupils," Born wrote, "but I wish they had shown less cleverness and more wisdom." Oppenheimer wrote his old teacher back. "Over the years, I have felt a certain disapproval on your part for much that I have done. This has always seemed to me quite natural, for it is a sentiment that I share." But of course, by then, it was too late.

It was science, industry and technology that made possible the 20th century's industrial killing. These forces magnified innate human barbarity. They served the immoral. And there are numerous scientists who continue to work in labs across the country on weapons systems that have the capacity to exterminate millions of human beings. Is this a "rational" enterprise? Is it moral? Does it advance the human species? Does it protect life?

For many of us, science has supplanted religion. We harbor a naive faith in the godlike power of science. Since scientific knowledge is cumulative, albeit morally neutral, it gives the illusion that human history and human progress also are cumulative. Science is for us what totems and spells were for our premodern ancestors. It is magical thinking. It feeds our hubris and sense of divine empowerment. And trusting in its fearsome power will mean our extinction.

The 17th century Enlightenment myth of human advancement through science, reason and rationality should have been obliterated forever by the slaughter of World War I. Europeans watched the collective suicide of a generation. The darker visions of human nature embodied in the works of Fyodor Dostoevsky, Leo Tolstoy, Thomas Hardy, Joseph Conrad and Frederick Nietzsche before the war found modern expression in the work of Sigmund Freud, James Joyce, Marcel Proust, Franz Kafka, D.H. Lawrence, Thomas Mann and Samuel Beckett, along with atonal and dissonant composers such as Igor Stravinsky and painters such as Otto Dix, George Grosz, Henri Matisse and Pablo Picasso. Human progress, these artists and writers understood, was a joke. But there were many more who

enthusiastically embraced new utopian visions of progress and glory peddled by fascists and communists. These belief systems defied reality. They fetishized death. They sought unattainable utopias through violence. And empowered by science and technology, they killed millions.

Human motives often are irrational and, as Freud pointed out, contain powerful yearnings for death and self-immolation. Science and technology have empowered and amplified the ancient lusts for war, violence and death. Knowledge did not free humankind from barbarism. The civilized veneer only masked the dark, inchoate longings that plague all human societies, including our own. Freud feared the destructive power of these urges. He warned in "Civilization and Its Discontents" that if we could not regulate or contain these urges, human beings would, as the Stoics predicted, consume themselves in a vast conflagration. The future of the human race depends on naming and controlling these urges. To pretend they do not exist is to fall into self-delusion.

The breakdown of social and political control during periods of political and economic turmoil allows these urges to reign supreme. Our first inclination, Freud noted correctly, is not to love one another as brothers or sisters but to "satisfy [our] aggressiveness on [our fellow human being], to exploit his capacity for work without compensation, to use him sexually without his consent, to seize his possessions, to humiliate him, to cause him pain, to torture and to kill him." The war in Bosnia, with rampaging Serbian militias, rape camps, torture centers, concentration camps, razed villages and mass executions, was one of numerous examples of Freud's wisdom. At best, Freud knew, we can learn to live with, regulate and control our inner tensions and conflicts. The structure of civilized societies would always be fraught with this inner tension, he wrote, because "... man's natural aggressive instinct, the hostility of each against all and of all against each, opposes this program of civilization." The burden of civilization is worth it. The alternative, as Freud knew, is self-destruction.

A rational world, a world that will protect the ecosystem and build economies that learn to distribute wealth rather than allow a rapacious elite to hoard it, will never be handed to us by the scientists and technicians. Nearly all of them work for the enemy. Mary Shelley warned us about becoming Prometheus as we seek to defy fate and the gods in order to master life and death. Her Victor Frankenstein, when his 8-foot-tall creation made partly of body pieces from graves came to ghastly life, had the same reaction as Oppenheimer when the American scientist discovered that his bomb had incinerated Japanese schoolchildren. The scientist Victor Frankenstein watched the "dull yellow eye" of his creature open and "breathless horror and disgust" filled his heart." Oppenheimer said after the first atomic bomb was detonated in the New Mexican desert: "I remembered the line from the Hindu scripture, the Bhagavad-Gita. Vishnu is trying to persuade the Prince that he should do his duty and to impress him takes on his multi-armed form and says, 'Now I am become Death, the destroyer of worlds.' I suppose we all thought that, in one way or another." The critic Harold Bloom, in words that could be applied to Oppenheimer, called Victor Frankenstein "a moral idiot."

All attempts to control the universe, to play God, to become the arbiters of life and death, have been carried out by moral idiots. They will relentlessly push forward, exploiting and pillaging, perfecting their terrible tools of technology and science, until their creation destroys them and us. They make the nuclear bombs. They extract oil from the tar sands. They turn the Appalachians into a wasteland to extract coal. They serve the evils of globalism and finance. They run the fossil fuel industry. They flood the atmosphere with carbon emissions, doom the seas, melt the polar ice caps, unleash the droughts and floods, the heat waves, the freak storms and hurricanes.

Now I am become Death, the destroyer of worlds.